

REMARKS/ARGUMENTS

Claim 4 is cancelled by this amendment and Claims 1, 3, 7-9, 18, and 23 were previously cancelled. Claims 2, 11-14, 17, 21-22, and 24 are amended herein. Moreover, Claim 25 is added and reflects an unamended Claim 6 that includes the limitations of independent Claim 2. Thus, Claims 2, 5-6, 10-17, 19-22 and 24-25 remain pending in this application. In view of the amendments and remarks made herein, Applicants respectfully request reconsideration of this application.

Rejections Under 35 U.S.C. § 103:

Claims 2, 4, 10, 11, 16, 17, 21, 22, and 24 stand rejected under 35 U.S.C. § 103 as being unpatentable over Admitted Prior Art (“APA”) in view of AIX Version 4.3 Communications Programming Concepts (October 1997)(“AIX”).

Regarding Amended **Claim 2**, in the pending Office Action (Paper No. 14), the Examiner has asserted that *AIX* teaches in stream synchronization, a multi-threaded environment, where several threads may access the same stream, same module, or the same queue at the same time (Office Action, Page 3, discussion of claim 2). The Office Action specifically points out that concurrent propagation of messages to, and from, synchronization queues is not taught by the APA. Moreover, the teaching of segmented queues is also not taught. Importantly, the other cited reference (AIX) also does not teach that “first and second threads concurrently propagate respective portions of the first and second messages to or from the first segmented synchronization queue”. Thus, the combination of cited references entirely misses the point of concurrent message propagation through a synchronization queue (in this implementation, a segmented back-up queue) by two or more threads. And also the cited references fail to teach the use of segmented synchronization queues. Absent a teaching of all such limitations the cited combination of references fail to establish a *prima facie* case of obviousness as to Claim 2.

The Office Action’s assertion that AIX’s teaching, when combined with that of the APA, insures data consistency is an interesting (if unsupported) conclusion that still does not teach the limitation of multi-threaded concurrent propagation of message traffic through a **segmented** synchronization queues as required by Claim 2.

Moreover, the Office Action has failed to show any motivation to combine the Applicants teachings (APA) with the cited art. Using the guidance set for the in the MPEP (§2142), the initial burden is on the examiner to provide some suggestion of the desirability of doing what the

inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). If, as in this case, the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the examiner to explain why the combination of the teachings is proper. *Ex parte Skinner*, 2 USPQ2d 1788 (Bd. Pat. App. & Inter. 1986). In the case here, it is fairly clear that the Applicants Specification (APA) has made no suggestion to combine with AIX. Nor is there any indication in AIX why it should be combined with the Applicants teachings. The Office Action has not satisfactorily explained why the suggested combination is proper.

The Office Action, as its sole rationale for combining the references, states "it would have been obvious to combine the teaching of AIX and APA ...". However, this line of reasoning is specifically forbidden by the MPEP (§2143) and supporting case law. "The level of skill in the art cannot be relied upon to provide the suggestion to combine references." *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999)(emphasis added). "A statement that modifications of the prior art to meet the claimed invention would have been " 'well within the ordinary skill of the art at the time the claimed invention was made' " because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references." *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993)(emphasis original). There is no suggestion in any of the cited references indicating that they should be combined. Thus, even had the cited references been able to support the rejection of Claim 2, there is no motivation to combine the references to achieve the claimed invention.

Therefore, in view of the foregoing, it is respectfully submitted that the cited references fail to establish a *prima facie* case of obviousness as to Claim 2. Consequently, the Applicants respectfully submit that the rejection of Claim 2 be withdrawn. Additionally, a similar logic can be applied to dependent **Claims 10, 21, 22, and 24**. Therefore, the Applicants respectfully submit that the rejection of dependent **Claims 2, 10, 21, 22 and 24** be withdrawn.

As to **Claim 11**, which is rejected on grounds identical to that of Claim 2 (which is discussed herein above), the Applicants assert for at least the reasons set forth above with respect

to Claim 2 that the cited references fail to establish a *prima facie* case of obviousness as to Claim 11. Moreover, Claim 11 is amended to identify certain functions of a segmented queue which are also not taught by the cited art. For example, the cited art fails to teach or suggest a “segmented auxiliary queue is configured for storing and processing operational messages separately from data messages, said operational messages relating to operational events associated with managing flow of data between the first layer software module and a second layer software module”. For at least these reasons, the Applicant’s respectfully submit that the rejection of Claim 11 be withdrawn. Additionally, as to **Claim 16** which is rejected on grounds identical to that of previously discussed Claim 11, the Applicants assert for at least the reasons set forth above with respect to Claim 11 that the cited references fail to establish a *prima facie* case of obviousness as to Claim 11 and therefore Applicant’s respectfully submit that the rejection of Claim 11 be withdrawn.

As to **Claim 17**, which has been amended to include the limitation of a “first segmented synchronization queue”, the Applicants assert for at least the reasons set forth above with respect to Claim 2 that the cited references fail to establish a *prima facie* case of obviousness as to Claim 17. Therefore, Applicants respectfully submit that the rejection of Claim 17 be withdrawn.

As to **Claim 4**, this rejection is made moot due to the cancellation of Claim 4.

Further Rejections Under 35 U.S.C. § 103:

Claims 5, 6, 14, 15, 19, and 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over APA, in view of AIX, and further in view of the U.S. Patent to Obermarck, et al. (USPN 4,847,754)(“Obermarck”).

Claim 5 (which depends on amended Claim 2) should be, for at least the reasons set forth herein above with respect to Claim 2 (upon which Claim 5 depends) the combination of APA and AIX fail to teach all the limitations of the claims.

Moreover, the brief statement that Obermarck teaches “concurrent propagation of data between software modules” specifically does not teach back-up queues (synchronization queues) nor does it teach concurrent propagation of a plurality of different messages through a synchronization buffer, i.e., it does not establish a *prima facie* case of obviousness as to Claim 5.

Moreover, as to **Claim 6**, the Office Action explains (at page 5, lines 3-4 of the last paragraph) that cited references (e.g., Obermarck at 1:40-61) teach that locks are required to implement concurrent message traffic. This is contrary to the invention embodied in Claim 6 which specifically state that determining “determines that the first thread can propagate the first

message **without blocking the second thread from propagating the second message** when said determining (a) determines that no events is being processed or pending and the thread-count for the first processor is zero.” The cited references use locks to block messages not having acquired the locks. This point is explained in detail in the Specification of the present invention, for example, at page 13: at lines 17-24. Thus, it is clear that the cited references fail to establish a *prima facie* case of obviousness as to Claim 6.

Claims 14 & 15 depend from Claim 11. For at least the reasons set forth above with respect to Claim 11 it is respectfully submitted that the cited references have failed to establish a *prima facie* case of obviousness as to Claims 14 and 15. Thus, the APA and AIX and Obermarck references taken individually, or in any reasonable combination, do not establish a *prima facie* case of obviousness as to these claims. Accordingly, it is respectfully submitted that these grounds for rejection be withdrawn.

The rejection of **Claim 19** is based on the earlier rejection of Claim 5. The rejection of **Claim 20** is based on the earlier rejection of Claim 10. For at least the reasons discussed previously with respect to Claims 5 and 10, the Applicants respectfully submit that the Office Action fails to establish a *prima facie* case of obviousness as to Claims 19 and 20.

Claims 12 and 13 stand rejected under 35 U.S.C. § 103 as being unpatentable over APA, in view of AIX, and further in view of the U.S. Patent to Heller, et al. (USPN 5,404,562)(“Heller”). The Applicants presume that the Examiner meant to reject these claims as being unpatentable over APA, in view of AIX, in view of Obermarck, and further in view of the U.S. Patent to Heller, et al. (USPN 5,404,562)(“Heller”). As discussed herein above with respect to, for example, Claim 11 the cited references fail to teach or suggest the limitation of “a segmented auxiliary queue” or a configuration for such a queue. For at least the reasons discussed hereinabove, the combination of APA, AIX, Obermarck, fail to teach or suggest concurrent message propagation to or from an auxiliary queue in a software module. Nothing in Heller remedies this defect in the cited combination of references. The cited portions of Heller (18:48-49) do not address concurrent data propagation in synchronization queues nor do they provide segmented queues. Since a nearly identical ground for rejection is raised for Claim 13, a similar argument can be applied. Accordingly, for at least the foregoing reasons the cited references have failed to establish a *prima facie* case of obviousness as to Claims 12 and 13.

Accordingly, it is respectfully submitted that neither the Admitted Prior Art, nor AIX, nor Obermarck, nor Heller, either singly or in any reasonably combination teach or suggest the

limitation of: a segmented synchronization queue. Accordingly, it is respectfully submitted that all pending claims are allowable over the cited references, taken alone, or in any proper combination. Moreover, the dependent claims recite additional features that render them patentable for additional reasons not discussed at this time. Thus, it is respectfully requested that the Examiner withdraw all rejections under 35 U.S.C. §103(a) as to Claims 2, 5, 6, 10-17, 19-22 and 24.

New Claim 25

Claim 25 has been added. It contains no amendments of prior claims. It stands as an unamended version of prior claim 6 (incorporated the limitations of independent Claim 2). In the pertinent rejection of Claim 6 the cited art includes the use of locks. For example, as explained in the Office Action at page 5, lines 3-4 of the last paragraph, the cited references (e.g., Obermarck at 1:40-61) teach that locks are required to implement concurrent message traffic. This is contrary to the invention embodied in new Claim 25 which specifically state that a determining step includes a step that “determines that the first thread can propagate the first message **without blocking the second thread from propagating the second message** when said determining (a) determines that no events is being processed or pending and the thread-count for the first processor is zero.” This is the express opposite of the teachings of the cited references which use locks to block messages not having acquired the locks. The advantages of avoiding such lock are well explained in the Specification of the present invention, for example, at page 13: at lines 17-24. Thus, it is clear that the cited references do not establish a *prima facie* case of obviousness as to Claim 25. Again, Claim 25 is not an amended claim but rather a restatement of old Claim 6 in independent form.

Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. The Examiner is cordially invited to contact the undersigned at the telephone number set out below to resolve or clarify any issues regarding this application.

If there are any issues remaining which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,

BEYER WEAVER & THOMAS, LLP

A handwritten signature in black ink, appearing to read 'F. T. Kalinski II', with a stylized flourish at the end.

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